

TRUCK CARGO BOX ENCLOSURE

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] Not applicable.

STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH

[0002] Not applicable.

BACKGROUND OF THE INVENTION

Field of the Invention

[0003] The invention relates to enclosures for pickup truck cargo boxes.

Description of Related Art

[0004] Pickup trucks offer their owners great utility. They have the capability of transporting at least two, and up to six people, and include an open cargo box capable of holding large items.

This open cargo box, however, exposes any items carried to the vagaries of weather.

[0005] Attempts to overcome this disadvantage generally involve enclosing the cargo box with a rigid "camper shell" or a tonneau cover. While protecting the contents of the cargo box, these solutions also limit the capacity of the cargo box. If the owner wants to carry a larger item, the shell or cover must generally be removed. Such rigid assemblies are not easily removable, and consume a great deal of storage space. Also, should an owner wish to reinstall the cover, they must return to the place of storage.

[0006] Another utility of the pickup truck is for recreational activities such as going to the beach or camping. The cargo box can be used to carry any equipment the owner would want to have available at these locations. It is also known that the cargo box can be used as a place to sleep while on these outings. If the "camper shell" has been left home, however, the owner is left exposed to the elements.

[0007] It would be advantageous to provide an enclosure that can shield the contents of the cargo box from the elements, yet is easily removable and compact for storage in the pickup truck, such as behind the seat in the cab of the truck. Such an enclosure would provide the owner of the truck the flexibility of having the open cargo box, and the ability to quickly cover the cargo box, no matter the location.

BRIEF SUMMARY OF THE INVENTION

[0008] A truck cargo box enclosure includes a pair of support tracks adapted to mount to side rails of the cargo box, a plurality of flexible support rods for connecting to the support tracks, and a fabric siding adapted to span the support rods in tension and connect to the support tracks. In one embodiment of the invention, the flexible support rods are formed of multiple sections linked together and are longer than a width of the cargo box so as to describe an arch when connected to the support tracks. In a further embodiment of the invention, a forwardmost of the flexible support rods is adapted to be secured to a cab of the truck. In a further embodiment of the invention, the fabric siding includes a U-channel edge for engaging the support track on each side of the cargo box. In a further embodiment of the invention, the enclosure includes a door assembly for an end of the cargo box, and the door assembly may be formed of fabric and integral with the fabric siding.

BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWINGS

[0009] The present invention will become more fully understood from the detailed description and the accompanying drawings, wherein:

[0010] Figure 1 is a perspective view of a pickup truck carrying a truck cargo box enclosure according to the invention.

[0011] Figure 2 is a perspective view of the frame of the truck cargo box enclosure of Figure 1.

[0012] Figure 3 is a partial cross-sectional view taken through line 3-3 of Figure 1.

[0013] Figure 4 is a perspective view of a two-piece support rod of the truck cargo box enclosure of Figures 1-3.

[0014] Figure 5 is a perspective view of storage totes for the enclosure of Figures 1-4.

DETAILED DESCRIPTION OF THE INVENTION

[0015] Referring to Figure 1, a pickup truck 100 is shown with a truck cargo box enclosure 10 according to the invention. The pickup truck 100 generally has a truck cab 110 and a cargo box 120. Referring to Figure 2, the cargo box 120 is defined by first side rail 122, second side rail 124, cargo floor 126, front bulkhead 128, and a tailgate (well known, and not shown for clarity). The tailgate can enclose the rear of the cargo box 120, or can fold downward to a horizontal position to the rear of the cargo box 120, as is well known. The enclosure 10 can function within cargo box 120 with the tailgate in both the open and closed positions.

[0016] With further reference to Figures 1-3, the enclosure 10 comprises a fabric covering 60 draped and stretched over a framework of flexible rods 40 supported by a pair of side support tracks 20. The fabric covering 60 can include one or a number of vent openings 66 that can include a screen for keeping insects out of the interior of the enclosure 10. The fabric covering 60 further includes a forward panel 62 and a rear panel 64, which can be formed integrally with covering 60, or can be attached by known methods such as zippers or hook-and-loop fasteners. The forward panel 62 includes a window opening for accessing the cab 110 of the truck 100. The rear panel 64 is shown with doors 68 for access to the interior of the enclosure 10.

[0017] Referring to Figures 2-4, the fabric covering 60 is supported on a framework of flexible rods 40 and linked together with side support tracks 20 mounted to each of the first and second side rails 122, 124 of the cargo box 120. Figure 3 shows a side support track 20 mounted on first side rail 122; the mounting of a side support track 20 on second side rail 124 is the same.

[0018] Side support track 20 includes a vertical section 22 abutting the inner face 140 of side rail 122, a horizontal section 24 covering the upper face 142 of side rail 122 and a depending flange 28. Horizontal section 24 extends beyond the outer face 144 of side rail 122 so that depending flange 28 extends from the exterior edge of the horizontal section 24, leaving a gap 29 between flange 28 and outer face 144. Each side support track 20 further includes a number of rod receiving apertures 26. The apertures 26 of the opposing support track 20, attached to side rail 124, are in alignment for receipt of rods 40. In the disclosed embodiment, these apertures 26 are aligned with the gap 29. The side support track 20 is mounted to the cargo box side rail 122, such as by a fastener 34 passing through opening 30 and into side rail upper surface 142. Fastener 34 is covered by a protective cap 36.

[0019] Rods 40 are formed of multiple pieces for ease of storage, and are assembled for use by connecting fittings 46, 48 as shown in Figure 4. Each end of the assembled rod 40 is terminated by an alignment pin 44 projecting from a support collar 42. Referring specifically to Figure 3, the alignment pin 44 is inserted into aperture 26 in support track 20 so that support collar 42 abuts the upper surface of support track horizontal section 24. Alignment pin 44 passes through aperture 26 into gap 29. The opposing alignment pin 44 of the flexible rod 40 is inserted into the appropriate aperture 26 of the opposing support track 20 so that the rod 40 is supported at each end. Because the rod 40 is flexible and longer than the width of the cargo box 120, the rod 40

describes an arch over the cargo box 120. Multiple rods 40 form the framework seen in Figure 2. Forwardmost rod 40 is secured to truck cab 110.

[0020] The fabric covering 60 is placed over the framework of rods 40. Each lateral edge of the fabric 60 is terminated by a channel 80, such as a U- or J-channel. Channel 80 is configured to receive depending flange 28, and to withstand the tension of fabric 60 being stretched over the framework of rods 40. Opposing channel 80 of the fabric 60 receives depending flange 24 of opposing support rail 20.

[0021] With forwardmost rod 40 secured to truck cab 110, enclosure 10 is compact and secure to remain in place when truck 100 is being operated. With fabric covering 60 in place and front and rear panels 62, 64 secured thereto, the cargo box 120 of truck 100 is protected from the elements. The enclosure 10 is easily disassembled by one person to open the cargo box 120, and is readily stored in truck 100, such as in storage totes 150, 160 shown in Figure 5, so it is always available for enclosing the cargo box 120 when the need arises.

[0022] While the invention has been described in the specification and illustrated in the drawings with reference to a preferred embodiment, it will be understood by those skilled in the art that various changes may be made and equivalents may be substituted for elements thereof without departing from the scope of the invention as defined in the claims. In addition, many modifications may be made to adapt a particular situation or material to the teachings of the invention without departing from the essential scope thereof. Therefore, it is intended that the invention not be limited to the particular embodiment illustrated by the drawings and described in the specification as the best mode presently contemplated for carrying out this invention, but that the invention will include any embodiments falling within the scope of the appended claims.